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COMMENT

Essential Data

Certain firms in the Internet economy may exclude competitors by refusing to deal data. Such conduct may impede innovation. But antitrust law lacks a coherent response to monopoly of data. This Comment proposes a policy inspired by duties to share. Over a century ago, courts devised an “essential facilities” doctrine that required monopolists to share inputs essential to competition with rivals. These inputs included phone lines and bridges. I contend that the essential facilities doctrine sometimes should require open access to data.

This Comment proceeds in two Parts. Part I describes the problems with data monopolies and provides an example of an essential data dispute. The Part goes on to explain the essential facilities doctrine and identify criticisms that led to the doctrine’s rejection. It closes by describing an essential data claim. Part II contends that criticisms of the essential facilities doctrine attenuate when a dataset becomes the facility to which a rival seeks access.

I. ONLINE DATA AND ESSENTIAL FACILITIES

Part I has three sections. Part I.A explains the role of data in the online economy and provides an example of an essential data claim. Part I.B introduces the essential facilities doctrine, as well as the doctrine’s demise. Part I.C sets forth the elements of an essential data claim and situates the concept in commentary and precedent.

A. Online Data

Sometimes data cause disputes. A company called PeopleBrowsr faced one late in 2012. According to PeopleBrowsr, its service helped clients monitor and analyze conversations online and relied on data from a social network called

Twitter.¹ PeopleBrowsr also claimed that it had used Twitter data for years.² But Twitter told PeopleBrowsr that the social network would revoke access to its data at the end of November 2012.³ Twitter alleged that its business model had evolved.⁴ According to PeopleBrowsr, Twitter thought the monitoring company no longer “fit.”⁵

PeopleBrowsr alleged that a Twitter shutoff “would [have] devastate[d] PeopleBrowsr’s business.”⁶ So the company stated that it negotiated with Twitter for access.⁷ PeopleBrowsr said that negotiations failed and then it sued.⁸ Shutoff, PeopleBrowsr said, would violate California competition law.⁹ “[C]ompetition in the market for analysis of Twitter data” would founder and innovation in the data’s use would slow.¹⁰ Not so, Twitter said: shutoff *preserved* the incentives of entrepreneurs to innovate and violated neither California nor federal antitrust law.¹¹ Twitter, the company said, “has the right to control its data.”¹²

This Comment challenges that and similar claims. Refusals to deal data can help firms free ride on rivals’ investments and maintain monopolies by excluding competitors.¹³ But courts supply no consistent response to the antitrust questions that data pose: PeopleBrowsr and Twitter settled and

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1. Complaint ¶ 5, *PeopleBrowsr, Inc. v. Twitter, Inc.*, No. CGC-12-526393 (Cal. Super. Ct. Nov. 27, 2012) (“By analyzing its 1000-day data mine of tweets, PeopleBrowsr empowers individual web users and organizations to find value in the massive volumes of data produced on Twitter. It also provides organizations deep insight regarding consumers’ reactions to products and services . . .”).
 2. *Id.* ¶ 4.
 3. *Id.* ¶¶ 9, 120; Mike Isaac, *Data Nerds Revolt! PeopleBrowsr Takes Twitter to Court Over Alleged Anticompetitive Actions*, ALL THINGS D (Nov. 28, 2012, 9:26 PM), <http://allthingsd.com/20121128/data-nerds-revolt-peoplebrowsr-takes-twitter-to-court-over-alleged-anticompetitive-actions> [<http://perma.cc/VF7D-8ZCA>].
 4. Defendant Twitter, Inc.’s Notice of Motion and Motion to Dismiss Plaintiffs’ Complaint at 1, *PeopleBrowsr, Inc. v. Twitter, Inc.*, No. 4:12-cv-06120-EMC (N.D. Cal. Mar. 6, 2013).
 5. Complaint, *supra* note 1, ¶ 114.
 6. *Id.* ¶ 122.
 7. *Id.* ¶ 120.
 8. *Id.* ¶ 121.
 9. *Id.* ¶ 155.
 10. *Id.* ¶ 160.
 11. Defendant Twitter, Inc.’s Notice of Motion and Motion to Dismiss Plaintiffs’ Complaint, *supra* note 4, at 9-12.
 12. *Id.* at 11.
 13. *See infra* Part II.A.

PeopleBrowsr got access for about eight months.¹⁴ Two software developers a decade apart sued online marketplaces for withholding data and got no answer on their antitrust claims.¹⁵ The Federal Trade Commission in 2011 reportedly opened an inquiry into claims that Twitter hobbled a potential rival by revoking access to data.¹⁶ The Commission never filed a complaint.¹⁷

B. The Essential Facilities Doctrine and Its Critics

Antitrust law generally preserves the “right[s] of trader[s] or manufacturer[s]” to choose the “parties with whom [they] deal.”¹⁸ But in “limited circumstances” a refusal to deal violates Section 2 of the Sherman Act, which prohibits monopolization.¹⁹ Under the essential facilities doctrine, a duty to deal arises when a monopolist refuses to share inputs essential to competition despite the feasibility of doing so.²⁰

The essential facilities doctrine dates at least to 1912, when “a group of railroad operators obtained . . . the only railroad bridges across the Mississippi River at St. Louis.”²¹ Because the “most extraordinary” topography of the region rendered it “impossible for any railroad company to pass through . . . without using [the group’s] facilities,” the Supreme Court required that the group deal with outsiders on “just and reasonable terms.”²²

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14. David McAfee, *Twitter, PeopleBrowsr Settle Dispute Over Data Access*, LAW360 (Apr. 29, 2013, 5:59 PM), <http://www.law360.com/articles/436973/twitter-peoplebrowsr-settle-dispute-over-data-access> [<http://perma.cc/6BRL-J5WZ>].
 15. See *Craigslist, Inc. v. 3Taps, Inc.*, 942 F. Supp. 2d 962, 982 (N.D. Cal. 2013) (bifurcating and staying discovery on antitrust counterclaims); see also *eBay, Inc. v. Bidder’s Edge, Inc.*, 100 F. Supp. 2d 1058, 1072–73 (N.D. Cal. 2000) (holding that a court evaluating whether to issue a preliminary injunction need not address an antitrust counterclaim); *eBay*, No. C-99-21200 RMW, 2000 WL 1863564 (N.D. Cal. July 25, 2000) (denying eBay’s motion to dismiss Bidder’s Edge’s antitrust counterclaims). The parties settled before trial. See *Stipulation for Dismissal with Prejudice*, *eBay*, No. C-99-21200 RMW (N.D. Cal. Mar. 6, 2001), ECF No. 178.
 16. Amir Efrati, *Antitrust Regulator Makes Twitter Inquiries*, WALL ST. J., July 1, 2011, <http://online.wsj.com/news/articles/SB10001424052702304450604576418184234003812> [<http://perma.cc/TS9Z-URY2>].
 17. E-mail from Elizabeth Lordan, Pub. Affairs Specialist, Fed. Trade Comm’n Off. of Pub. Affairs, to author (Sept. 17, 2014, 2:52 PM EST) (on file with author).
 18. *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919).
 19. *Pacific Bell Tel. Co. v. Linkline Commc’ns, Inc.*, 555 U.S. 438, 447–48 (2009).
 20. *MCI Commc’ns Corp. v. AT&T*, 708 F.2d 1081, 1132–33 (7th Cir. 1983).
 21. Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals’ Costs to Achieve Power Over Price*, 96 YALE L.J. 209, 234 (1986).
 22. *United States v. Terminal R.R. Ass’n*, 224 U.S. 383, 397, 405, 411 (1912).

The Supreme Court never adopted the essential facilities doctrine by name.²³ But lower courts and commentators drew on the doctrine.²⁴ The Court in 1972 made a power company share transmission wires with the company's rivals.²⁵ A decision of the Court a decade later required two ski mountains to continue offering a joint ticket after one sought to withdraw.²⁶

Today, little remains of the essential facilities doctrine. Commentators weakened the doctrine with three criticisms. First, monopolists could not extract additional profits from consumers by refusing to deal.²⁷ So efficiency and not exclusion likely motivated behavior scrutinized by the essential facilities doctrine. Second, the doctrine weakened incentives to compete: dominant firms would not erect infrastructure lest a court appropriate the investment for a rival's use.²⁸ Finally, the doctrine placed courts into the role of regulators, though they lacked the capacity to administer the sharing that the doctrine required.²⁹ These concerns held sway: the Supreme Court in 2004 denied "[e]ver recogniz[ing]" the doctrine of essential facilities.³⁰

C. Essential Data

This Comment argues that a claim to essential data—data essential to competition—should require the same elements as a claim to an essential facility. First, the monopolist must control and deny access to the data that the plaintiff seeks.³¹ Second, competition must fail without the data.³² Third, the

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23. *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko*, 540 U.S. 398, 411 (2004) (stating that the Court has never recognized an essential facilities doctrine); see *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 611 n.44 (1985) (requiring ski mountains to continue offering a joint ticket but finding it unnecessary to consider the essential facilities doctrine).
 24. See, e.g., *MCI*, 708 F.2d at 1132-33; *Hecht v. Pro-Football, Inc.*, 570 F.2d 982, 992 (D.C. Cir. 1977); see also Phillip Areeda, *Essential Facilities: An Epithet in Need of Limiting Principles*, 58 ANTITRUST L.J. 841, 847-52 (1990) (providing an overview of three Supreme Court cases often cited to support the essential facilities doctrine); Brett Frischmann & Spencer Weber Waller, *Revitalizing Essential Facilities*, 75 ANTITRUST L.J. 1, 6-8 (2008) (discussing the traditional essential facilities doctrine).
 25. *Otter Tail Power Co. v. United States*, 410 U.S. 366, 368-69, 382 (1973).
 26. *Aspen Skiing*, 472 U.S. at 611.
 27. ROBERT BORK, *THE ANTITRUST PARADOX* 229 (1978); Richard A. Posner, *Exclusionary Practices and the Antitrust Laws*, 41 U. CHI. L. REV. 506, 523-24 (1974).
 28. 3B PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 772 (3d ed. 2008).
 29. Areeda, *supra* note 24, at 853; Michael Boudin, *Antitrust Doctrine and the Sway of Metaphor*, 75 GEO. L.J. 395, 401 (1986).
 30. *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko*, 540 U.S. 398, 411 (2004).
 31. See *MCI Commc'ns Corp. v. AT&T*, 708 F.2d 1081, 1132-33 (7th Cir. 1983).

plaintiff must lack means to duplicate the data.³³ Fourth, the monopolist must have means to share the data.³⁴ Fifth and finally, an essential facility plaintiff must demonstrate the defendant's monopoly power in an antitrust market.³⁵

Several recent claims fit this description. One is Twitter's attempt to disconnect PeopleBrowsr, discussed at the beginning of this Part. A second relates to a 2000 dispute between eBay and Bidder's Edge, an aggregator of auction prices³⁶: eBay, which reportedly controlled eighty-seven percent of auction traffic,³⁷ refused to deal with an ecosystem firm that made tools for users to access auction prices.³⁸ A third concerns a dispute that reached federal court in 2012³⁹: Craigslist, a dominant provider of online classifieds, sued 3Taps, a start-up that obtained and shared data based on Craigslist's classifieds.⁴⁰

Each dispute started with data created by users of a monopolist's platform. Competitors could not duplicate the data because of network effects: each user who used the monopolist's platform made that platform more valuable to every other user. So no competing dataset emerged. For example, the set of messages that Twitter controlled faced no competition from a rival network: users who

32. See *Twin Labs., Inc. v. Weider Health & Fitness*, 900 F.2d 566, 570 (2d Cir. 1990).

33. See *MCI*, 708 F.2d at 1132.

34. See *id.* at 1133.

35. See *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966) ("The offense of monopoly . . . has two elements: (1) the possession of monopoly power in the relevant market . . ."); *Viacom Int'l Inc. v. Time Inc.*, 785 F. Supp. 371, 376 n.12 (S.D.N.Y. 1992) (stating that the essential facilities doctrine is "more properly characterized as a label that may aid in the analysis of a monopoly claim, not a statement of a separate violation of law"); cf. Marina Lao, *Networks, Access, and "Essential Facilities": From Terminal Railroad to Microsoft*, 62 SMU L. REV. 557, 583 (2009) (indicating that applying the essential facilities doctrine to information is imprudent where a firm lacks monopoly power in the market).

36. *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000); *eBay*, No. C-99-21200 RMW, 2000 WL 1863564 (N.D. Cal. July 25, 2000) (denying eBay's motion to dismiss Bidder's Edge's antitrust counterclaims).

37. *Bidder's Edge Sues eBay, Claiming Unfair Business Tactics*, DOW JONES BUS. NEWS, Feb. 7, 2000.

38. As in the case of Twitter, competitor complaints about eBay's actions prompted agency scrutiny. John R. Wilke, *Justice Department Looks into Efforts by eBay to Bar Entry of Software 'Bots'*, WALL ST. J., Feb. 4, 2000, <http://online.wsj.com/news/articles/SB949624391916067802> [<http://perma.cc/89PD-VUGH>]. The U.S. Department of Justice opened an antitrust investigation into the activities that gave rise to the *Bidder's Edge* litigation. Two years later, the probe concluded without action. *Antitrust Probe Ends*, WALL ST. J. EUR., Mar. 27, 2002, at A6.

39. *Complaint, Craigslist, Inc. v. 3Taps, Inc.*, 942 F. Supp. 2d 962 (N.D. Cal. 2013) (No. CV-12-03816 CRB), 2012 WL 7061539.

40. *Id.*

wanted to listen went where people were talking. The set of prices that eBay controlled faced no competition from a rival auction: sellers went where people were buying.⁴¹ The disputes in each case involved refusals to deal monopolized inputs protected by barriers to entry. Those circumstances invite the application of the essential facilities doctrine.⁴²

II. RESPONDING TO CRITICS OF THE ESSENTIAL FACILITIES DOCTRINE

This Part contends that criticisms of the essential facilities doctrine attenuate when rivals invoke the doctrine against a defendant that has withheld data. Refusals to deal data may raise monopoly profits and lower consumer welfare. Essential data remedies benefit consumers without depriving innovators of incentives to invest. Finally, courts may administer access to data more easily than access to physical facilities.

Data essential to competition—essential data—can exist when firms act alone or with others.⁴³ Courts have forced access in the latter case but not the former.⁴⁴ Firms that act alone may originate data or build platforms for others to originate data. Microsoft and Intel, for example, originated technical data⁴⁵ essential to competition in downstream markets. Marina Lao has argued for access to data in such a case.⁴⁶ This Comment extends the case for access to

41. Each additional market participant increases that market's liquidity. Better prices result. A rival market with fewer participants will offer lower prices (for sellers) or higher prices (for buyers) than the incumbent. These inferior prices will induce buyers and sellers to trade on the incumbent market, further depriving the rival of liquidity. See Daniel M. Gray, *The Essential Role of Regulation in Promoting Equity Market Competition*, 1 BROOK. J. CORP. FIN. & COM. L. 395, 397 (2007).

42. *MCI Commc'ns Corp. v. AT&T*, 708 F.2d 1081, 1132-33 (7th Cir. 1983).

43. *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346, 1350-51 (Fed. Cir. 1999) (acting alone); *Marin Cnty. Bd. of Realtors, Inc. v. Palsson*, 549 P.2d 833, 842-43 (Cal. 1976) (acting with others).

44. Compare *Grillo v. Bd. of Realtors*, 219 A.2d 635, 650 (N.J. Super. Ct. Ch. Div. 1966) (forcing access to a multiple listing service that was operated as a joint venture), with *SolidFX, LLC v. Jeppesen Sanderson, Inc.*, 935 F. Supp. 2d 1069, 1083-84 (D. Colo. 2013) (rejecting the application of the essential facilities doctrine to aviation data that the defendant originated), and *White Directory of Rochester, Inc. v. Rochester Tel. Corp.*, 714 F. Supp. 65, 70 (W.D.N.Y. 1989) (rejecting the application of the essential facilities doctrine to listings that utility originated).

45. See *Intergraph*, 195 F.3d at 1357; Case T-201/04, *Microsoft Corp. v. Comm'n*, 2007 E.C.R. II-03601.

46. Lao, *supra* note 35, at 558-59 (2009) (arguing that a "theoretically sound basis for antitrust intervention" exists because sharing interoperability information permits competition for "a

platforms: that is, to firms whose data monopolies derive from users who must originate data to consume the functionality that the firms' technology enables.

A. Motive to Refuse

Critics of the essential facilities doctrine begin by asking why monopolists would refuse to deal. Single monopoly profit theory holds that monopolists may extract monopoly rents from a market without selling to consumers.⁴⁷ Assuming there is a competitive market for the end product whose input the monopolist controls, monopolists may charge downstream firms one fee or royalty per product and thereby induce downstream firms to produce only the monopoly quantity. The monopolist could do no better if it sold to consumers itself.

Data monopolists in emerging industries lie beyond this model. First, one dataset can supply zero or infinite final goods and services. When 3Taps gets data from Craigslist ads, 3Taps can serve that data to anyone who wants to see goods and services listed for sale on Craigslist's exchange. Second, a data monopolist may lack the ability to monitor the quantity of final goods and services produced using the monopolist's data. When Bidder's Edge scrapes prices from eBay, eBay may never learn that a user has viewed those prices on Bidder's Edge. As a result, uncertainty may blur the final demand curve that a data monopolist faces.

If the monopolist cannot predict final demand and must make sunk investments in order to enter the final market, the monopolist may prefer temporarily to deal with a downstream rival. The rival's success or failure provides a proxy for otherwise unobservable final demand. If the data monopolist retains the ability to terminate the rival's access, then the monopolist has obtained a costless option on a downstream market. For example, PeopleBrowsr said that it started analyzing Twitter data on the basis of the social network's promise to make that data available.⁴⁸ Twitter,

necessity" that facilities' "natural monopoly characteristics or strong network effects" would otherwise bar).

47. See, e.g., 3B AREEDA & HOVENKAMP, *supra* note 28, ¶ 773c ("[A] monopolist cannot earn double profits by monopolizing a second, vertically related market."); BORK, *supra* note 27, at 229 ("[V]ertically related monopolies can take only one monopoly profit"); Posner, *supra* note 27, at 524.

48. Complaint, *supra* note 1, ¶¶ 27-33 ("PeopleBrowsr Built a Valuable Business in Reliance on Twitter's Commitment to Keep Access to Its Data Open.").

PeopleBrowsr said, refused to share data only after PeopleBrowsr demonstrated the existence of a lucrative market for analytics.⁴⁹

So a data monopolist might pursue a strategy of free riding that ends with a refusal to deal. That means that uncertainty about market opportunities makes real the monopolist that Judge Richard A. Posner could imagine only “with difficulty”: the monopolist who “entice[s] new firms into its market only to destroy them.”⁵⁰ If a plaintiff cannot bring an essential data claim to mitigate the threat of exclusion, then the risk of entry—and, therefore, the cost of innovation—will rise.

Data monopolists might also refuse to deal in order to protect their monopolies. A monopolist may fear that a downstream rival’s tools will eventually supplant the monopolist’s product altogether.⁵¹ If the monopoly product provides to users data produced by a network, then refusal to share those data may impede a rival that seeks to develop a competing product. For example, according to Craigslist’s rivals, they cannot promise market prices to buyers without Craigslist’s data.⁵² Or a social network’s rival might choose to challenge the network by first attracting users with messages passed on the incumbent network.⁵³ Refusing to deal data forecloses such a tactic.

Data monopolists may have multiple motives for refusing to deal data to potential competitors. Courts should not automatically ascribe to those refusals the procompetitive explanations put forward by critics of the essential facilities doctrine.⁵⁴

49. *Id.* ¶ 92 (“After encouraging PeopleBrowsr and other developers to develop innovative products that opened up lucrative new markets analyzing Twitter data, Twitter has now acted to take control of those markets.”).

50. *Olympia Equip. Leasing Co. v. W. Union Tel. Co.*, 797 F.2d 370, 376 (7th Cir. 1986).

51. See, e.g., *United States v. Microsoft Corp.*, 253 F.3d 34, 64 (D.C. Cir. 2001) (finding that the developer of an operating system violated Section 2 of the Sherman Act by excluding technologies with the potential to challenge the operating system’s monopoly).

52. Defendant 3Taps, Inc.’s First Amended Counterclaim at 46–49, *Craigslist, Inc. v. 3Taps, Inc.*, 942 F. Supp. 2d 962 (N.D. Cal. 2013) (No. CV-12-03816 CRB), 2012 WL 8233034.

53. NICK BILTON, *HATCHING TWITTER: A TRUE STORY OF MONEY, POWER, FRIENDSHIP, AND BETRAYAL* 244 (2013) (describing a potential Twitter rival that planned “to build a Twitter-network clone that could be used to divert people away from Twitter to an entirely new service”); see also Dennis W. Carlton & Michael Waldman, *The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries*, 33 RAND J. ECON. 194, 207 (2002) (“[T]he monopolist will sometimes deter entry into the primary market in period 2 by behaving in a manner that causes cohort 1 consumers to purchase complementary units from the monopolist.”).

54. See, e.g., BORK, *supra* note 27, at 231; David J. Gerber, Note, *Rethinking the Monopolist’s Duty to Deal: A Legal and Economic Critique of the Doctrine of ‘Essential Facilities,’* 74 VA. L. REV. 1069, 1084 (1988) (“The law should presume that efficiency motivates monopolists absent any anticompetitive incentive for refusals to deal.”).

B. Incentives to Invest

Critics next charged that the essential facilities doctrine distorted firms' incentives to invest.⁵⁵ The prospect of future antitrust liability "could significantly reduce the incentive of entrepreneurs to innovate in areas . . . involv[ing] essential facilities."⁵⁶ The Supreme Court's *Trinko* decision adopted this argument,⁵⁷ which has since met with approval in courts of appeal.⁵⁸

However, antitrust law does not offer clear guidance about when a defendant's argument about reduced incentives will suffice to rebut an essential facilities claim. The Supreme Court last ruled for an essential facilities plaintiff in *Aspen Skiing Co. v. Aspen Highlands Skiing Co.*⁵⁹ *Aspen's* unanimous Court held that the prospect of profits from "exclusionary" conduct does not justify a refusal to deal.⁶⁰ But as Einer Elhauge asserts, "[m]onopolization doctrine currently uses vacuous standards and conclusory labels that provide no meaningful guidance about which conduct will be condemned as exclusionary."⁶¹ So data monopolists' claims that refusals to deal protect "incentives of companies to innovate and compete,"⁶² or reduce "free-riding on [the monopolist's] substantial investment of time, effort, and expense,"⁶³ presuppose the sufficiency of business justifications that antitrust law has yet to accept.

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- 55. HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE* 340 (4th ed. 2011) ("Forced Sharing Undercuts Incentives to Develop Alternative Sources of Supply.").
 - 56. Gregory J. Werden, *The Law and Economics of the Essential Facility Doctrine*, 32 ST. LOUIS U. L.J. 433, 473 (1987); see also Caswell O. Hobbs III et al., *Panel Discussion: Exclusionary Conduct*, 57 ANTITRUST L.J. 723, 742 (1988) ("[The monopolist] got out in front when it wasn't at all clear that the [essential] facility was going to work, and now someone else wants to come along and help themselves [sic].").
 - 57. *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko*, 540 U.S. 398, 407-08 (2004) ("[Forced sharing] may lessen the incentive for the monopolist, the rival, or both to invest in those economically beneficial facilities.").
 - 58. See, e.g., *Novell, Inc. v. Microsoft Corp.*, 731 F.3d 1064, 1072 (10th Cir. 2013); *Cablevision Sys. Corp. v. FCC*, 597 F.3d 1306, 1322 (D.C. Cir. 2010); *MetroNet Servs. Corp. v. Qwest Corp.*, 383 F.3d 1124, 1131 (9th Cir. 2004).
 - 59. *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 611 (1985).
 - 60. *Id.* at 608 (declining to find business justification in defendant's interest in "reducing competition in the Aspen market over the long run").
 - 61. Einer Elhauge, *Defining Better Monopolization Standards*, 56 STAN. L. REV. 253, 253 (2003).
 - 62. Defendant Twitter, Inc.'s Notice of Motion and Motion to Dismiss Plaintiffs' Complaint, *supra* note 4, at 11.
 - 63. Complaint, *supra* note 39, ¶ 144.

Moreover, the incentive claim rests on the *ex ante* expectations of entrepreneurs, but the experience of the data monopolists identified in this Comment suggests that facility ownership did not motivate entry into the markets that the monopolists came to dominate. For example, Twitter launched a tool to connect; early monetization discussions revolved around advertising.⁶⁴ Craigslist began as its founder's events circular; the site remained "wedded to the idea that [it] was a community service" years after its launch.⁶⁵ eBay's first revenues came from transaction fees, and its business plan predicted future revenue from software licensing.⁶⁶

This could change. Data licensing revenues at Twitter rose almost fifty percent in 2013, to \$70 million.⁶⁷ In April 2014 the company bought Gnip, a data reseller.⁶⁸ LinkedIn, a social network for professionals, received most of its 2013 revenue from hiring professionals who bought access to the network's data.⁶⁹

The application of any essential data doctrine to those who invest in pursuit of data monopolies will require finesse. But essential facilities precedents supply a framework for such a future: the Supreme Court's refusal-to-deal precedents impose sharing only after reviewing a monopolist's reasons for exclusion.⁷⁰ Whether those reasons may include monopoly profits, if the

64. BILTON, *supra* note 53, at 109.

65. Gary Wolf, *Why Craigslist Is Such a Mess*, WIRED, Aug. 24, 2009, http://archive.wired.com/entertainment/theweb/magazine/17-09/ff_craigslist?currentPage=2 [<http://perma.cc/GFW4-7DX9>].

66. ADAM COHEN, *THE PERFECT STORE: INSIDE EBAY* 71-72 (2002).

67. Twitter, Inc., Annual Report (Form 10-K) 55 (Mar. 6, 2014), http://www.sec.gov/Archives/edgar/data/1418091/000095012314003031/twtr-10k_20131231.htm [<http://perma.cc/FME4-QMTE>].

68. See Elizabeth Dwoskin & Yoree Koh, *Twitter Agrees to Buy Data Partner Gnip*, WALL ST. J., Apr. 15, 2014, <http://online.wsj.com/news/articles/SB10001424052702304572204579503402564724312> [<http://perma.cc/VDN-52AV>] (noting that Twitter's acquisition of Gnip was "a sign that [Twitter] wants a bigger role in analyzing tweets for businesses hungry for insights from social media"); Erin Griffith, *Twitter Plays Defense with Deal for Gnip*, FORTUNE, Apr. 15, 2014, <http://fortune.com/2014/04/15/twitter-plays-defense-with-deal-for-gnip> [<http://perma.cc/3XH6-ZG7P>] ("The deal marks a turning point for social data."); Mike Isaac, *With Gnip Buy, Twitter Starts Taking Its Data Business Seriously*, RE/CODE (Apr. 15, 2014, 7:27 AM), <http://recode.net/2014/04/15/with-gnip-buy-twitter-starts-taking-its-data-business-seriously> [<http://perma.cc/3MT5-MNCQ>] ("Twitter didn't quite take its data licensing revenue stream seriously for a long time . . . Perhaps with the Gnip acquisition, that stance has changed.").

69. LinkedIn Corp., Annual Report (Form 10-K) 8-9, 48 (Feb. 13, 2014), <http://www.sec.gov/Archives/edgar/data/1271024/000144530514000439/a20131231-10xkdocument.htm> [<http://perma.cc/36JR-FRLW>].

70. See, e.g., *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 608 (1985).

profits require exclusion and motivate investment, remains an unresolved question.⁷¹ Partial answers exist; courts and scholars view with skepticism justifications advanced by monopolists who deal with some, but not with rivals.⁷² Moreover, courts may scrutinize proffered justifications for pretext, safeguarding *ex ante* incentives only where those incentives are endangered.⁷³

C. Administrability

Finally, critics questioned courts' capacity to identify and remedy anticompetitive refusals to deal.⁷⁴ This administrability critique asserted that generalist judges' reviews of novel practice and complex economics for "exclusionary" conduct became risky affairs.⁷⁵ And once judges condemned refusals to deal, they could not enforce remedies without taking on the burdens of a regulator.⁷⁶

Essential data remedies escape some of these criticisms. First, the nonrivalrous character of data "facilities" relieves courts of the analytical effort otherwise required to prevent "congestion through competing uses" of physical facilities with finite capacity.⁷⁷ Second, the data monopolist faces costs of

71. Elhauge, *supra* note 61, at 310; see *Novell, Inc. v. Microsoft Corp.*, 731 F.3d 1064, 1075-77 (10th Cir. 2013).

72. See *Olympia Equip. Leasing Co. v. W. Union Tel. Co.*, 797 F.2d 370, 377 (7th Cir. 1986); Elhauge, *supra* note 61, at 312.

73. See, e.g., *Aspen Skiing*, 472 U.S. at 609.

74. See HOVENKAMP, *supra* note 55, at 339 (arguing that the essential facilities doctrine "requires a court to set terms and conditions of the sale, thus turning it into a kind of regulatory agency"); Frank H. Easterbrook, *Essay: The Chicago School and Exclusionary Conduct*, 31 HARV. J.L. & PUB. POL'Y 439, 442 (2008) ("Anyone who thinks that judges would be good at detecting the few situations in which cooperation would do more good than harm has not studied the history of antitrust.").

75. Frank H. Easterbrook, *On Identifying Exclusionary Conduct*, 61 NOTRE DAME L. REV. 972, 977-78 (1986) ("Judges hearing antitrust cases have a lousy record in separating economic wisdom from fallacy."); see also *Novell, Inc.*, 731 F.3d at 1075 (describing the complexity of identifying exclusionary practice); Elhauge, *supra* note 61, at 255 (critiquing the "vacuous" standards used to determine which actions are exclusionary).

76. See, e.g., *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko*, 540 U.S. 398, 408 (2004) ("Enforced sharing . . . requires antitrust courts to act as central planners, . . . a role for which they are ill suited."); Areeda, *supra* note 24, at 853; Frank H. Easterbrook, *Correspondence: Workable Antitrust Policy*, 84 MICH. L. REV. 1696, 1700-01 (1986).

77. Spencer Weber Waller, *Areeda, Epithets, and Essential Facilities*, 2008 WIS. L. REV. 359, 373; see Frischmann & Waller, *supra* note 24, at 13 ("For partially non-rivalrous resources of finite capacity, the cost-benefit analysis is more complicated because of the possibility of congestion through competing uses and users."); cf. *Hecht v. Pro-Football, Inc.*, 570 F.2d 982, 992-93 (D.C. Cir. 1977) ("[T]he antitrust laws do not require that an essential facility

sharing that likely approach zero;⁷⁸ any nonzero costs likely arise from markets for commoditized infrastructure, such as servers, bandwidth, or processors. Therefore, no sustained judicial inquiry into industry idiosyncrasies or extant plant characteristics would be necessary to determine the sharing costs borne by data monopolists.⁷⁹

Finally, courts can preserve incentives to invest by permitting data monopolists to recover their average total costs.⁸⁰ Courts have long paired cost recovery with the essential facilities doctrine.⁸¹ The standard—which includes a reasonable return on capital—“reflects equilibrium in the market for investment.”⁸²

The argument that innovators and their backers require higher than reasonable returns to capital presumes that one firm—but not others—can identify a superior investment opportunity. Theories of efficient capital markets, however, deny that such opportunities for arbitrage exist.⁸³ Together, these observations suggest that courts may more easily administer access to data than to physical facilities.

be shared if such sharing would be impractical or would inhibit the defendant's ability to serve its customers adequately.”); *United States v. AT&T*, 524 F. Supp. 1336, 1360-61 (D.D.C. 1981) (describing “problems of feasibility and practicability” that courts may consider in context of essential facilities doctrine).

78. See, e.g., *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058, 1063 (N.D. Cal. 2000) (explaining that aggregator requests comprised between 0.7 percent and 1.1 percent of data transferred by an auction site over ten months; the cost of service totaled between \$45,323 and \$61,804); cf. Maureen A. O'Rourke, *Shaping Competition on the Internet: Who Owns Product and Pricing Information?*, 53 VAND. L. REV. 1965, 1980-81 (2000) (suggesting that an access regime would not lead to a debilitating volume of access requests).

79. See *Town of Concord, Mass. v. Bos. Edison Co.*, 915 F.2d 17, 25 (1st Cir. 1990) (describing the difficulties of administering access remedies).

80. BRETT M. FRISCHMANN, *INFRASTRUCTURE: THE SOCIAL VALUE OF SHARED RESOURCES* 176 (2012) (quoting John F. Duffy, Comment, *Intellectual Property Isolationism and the Average Cost Thesis*, 83 TEX. L. REV. 1077, 1079 (2005)); cf. Jeffrey L. Harrison, *A Positive Externalities Approach to Copyright Law: Theory and Application*, 13 J. INTELL. PROP. L. 1, 15 (2005) (“No costs beyond the minimum necessary to bring copyright-worthy works into existence should be incurred.”).

81. E.g., *United States v. Terminal R.R. Ass'n*, 224 U.S. 383, 411 (1912) (structuring a grant of competitor access upon “use, character, and cost of service”); *United States v. Realty Multi-List, Inc.*, 629 F.2d 1351, 1386 (5th Cir. 1980) (holding that the defendant in an essential facilities case “must be allowed to establish fee schedules which allow it to recoup its costs of operation”).

82. FRISCHMANN, *supra* note 80, at 176.

83. Cf. Duffy, *supra* note 80, at 1078-79 (“If investors in intellectual property creation were recovering more than their average fixed costs needed to produce the intellectual property, something would seem wrong. But what would be wrong is that the market in investment would not be in equilibrium.”).

D. Consumer Welfare

The benefits of access to data should also enter the analysis of courts confronted with claims to essential data. In no markets do monopoly prices produce static deadweight loss more than in markets for information.⁸⁴ Further, refusals to deal essential data stall innovation. Data power many applications: Twitter data have predicted social unrest and power outages and directed humanitarian aid.⁸⁵ In that regard, data resemble technologies that support multiple rounds of innovation.⁸⁶

Innovation scholars suggest that unqualified control of such technology “tends to hinder technical progress.”⁸⁷ First movers focus on past experiences⁸⁸ or lack expertise to develop all applications.⁸⁹ Improvers who would build on data may fail to secure permission to do so because monopolists hold divergent beliefs about an improvement’s value.⁹⁰

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84. See Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in *THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS* 609, 614–15 (Nat’l Bureau of Econ. Res. ed., 1962) (“If [the cost of transmitting information] were zero, then optimal allocation would obviously call for unlimited distribution of the information without cost.”).
 85. Elizabeth Dwoskin, *Twitter’s Data Business Proves Lucrative*, *WALL ST. J.*, Oct. 7, 2013, <http://online.wsj.com/news/articles/SB10001424052702304441404579118531954483974> [<http://perma.cc/E356-E7XH>].
 86. Robert P. Merges & Richard R. Nelson, *On Limiting or Encouraging Rivalry in Technical Progress: The Effect of Patent Scope Decisions*, 25 *J. ECON. BEHAV. & ORG.* 1, 7 (1994) [hereinafter Merges & Nelson, *The Effect of Patent Scope Decisions*]; cf. FRISCHMANN, *supra* note 80, at 253 (“Intellectual infrastructure, such as basic research [and] ideas, . . . facilitat[es] a wide range of downstream productive activities . . .”).
 87. Merges & Nelson, *The Effect of Patent Scope Decisions*, *supra* note 86, at 1; see Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 *COLUM. L. REV.* 839, 844 (1990) [hereinafter Merges & Nelson, *Complex Economics*]; see also Merges & Nelson, *Complex Economics*, at 872 (offering theoretical justifications for the historical account).
 88. Merges & Nelson, *Complex Economics*, *supra* note 87, at 873.
 89. See VIKTOR MAYER-SCHÖNBERGER & KENNETH CUKIER, *BIG DATA* 124 (2013) (arguing that data monopolists “don’t necessarily have the right skills to extract [data’s] value or to generate creative ideas about what is worth unleashing”); Mark Lemley, *Ex Ante Versus Ex Post Justifications for Intellectual Property*, 71 *U. CHI. L. REV.* 129, 137 (2004) (“Creators are often terrible managers. They frequently misunderstand the significance of their own invention and the uses to which it can be put.”); Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 *J. ECON. PERSP.* 29, 32–35 (1991).
 90. Merges & Nelson, *The Effect of Patent Scope Decisions*, *supra* note 86, at 5 (“Williamson’s theory . . . surely would lead one to suspect that it would be very difficult to work out

Broad exclusion rights favor innovation and consumer welfare when “the overall potential for modifications and improvements based on the original achievement is relatively clear and bounded.”⁹¹ Little suggests that essential data fit that description⁹²: AOL failed to recognize that transaction data could power the recommendation engine that Amazon built.⁹³ Yahoo considered creating a spell check tool from users’ search engine queries, but it was Google that actually pursued the project.⁹⁴

The welfare case for an essential data doctrine has caveats. I have simplified questions of access quality over which parties have litigated in the last twenty years.⁹⁵ I have assumed that conduct that resembles both exclusion and justified competition excludes with frequency sufficient to justify scrutiny.⁹⁶ But the *prima facie* case remains: revitalizing essential facilities in the context of data may speed innovation and increase consumer welfare.⁹⁷

CONCLUSION

This Comment has argued that criticisms of the essential facilities doctrine carry less weight when a dataset becomes the facility. In the data context, the essential facilities doctrine captures suspect conduct and better withstands criticisms linked to *ex ante* incentives. Remedies that enforce access to data would entail less judicial inquiry into costs of service and facility capacity. The case for any essential data doctrine will evolve with the objectives of aspiring data monopolists. But that case will always build on the allocative inefficiencies of information monopolies and their negative effects on innovation with data.

licensing arrangements regarding rights to what may be found or created prior to knowing just what the inventions or discoveries will turn out to be.”).

91. *Id.* at 7.

92. MAYER-SCHÖNBERGER & CUKIER, *supra* note 89, at 103 (“[T]he importance of data’s reuse is not fully appreciated in business and society. . . . [M]any Internet and technology companies have been unaware until recently how valuable data’s reuse can be.”).

93. *Id.* at 105.

94. *Id.* at 112.

95. See, e.g., *Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko*, 540 U.S. 398, 403 (2004).

96. Frank H. Easterbrook, *When Is It Worthwhile to Use Courts to Search for Exclusionary Conduct?*, 2003 COLUM. BUS. L. REV. 345, 345 (“The big problem lies in this: competitive and exclusionary conduct look alike.”).

97. Cf. Frischmann & Waller, *supra* note 24, at 11-12 (arguing that infrastructure management regimes that incorporate “open access[]” and nondiscriminatory terms “facilitate[] competition downstream, innovation and experimentation with new uses, and often the generation of positive externalities”).

Essential data implicate networks through which consumers connect and transact—activities fundamental to Internet economies. Courts and agencies should consider whether a doctrine devised to safeguard competition in the last century has become more salient in this one.

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